



State of Washington
DRAFT
REPORT OF EXAMINATION
FOR WATER RIGHT CHANGE

WR File NR CG2-GWC17
WR Doc ID 6557796

Add or Change Point of Diversion/Withdrawal

PRIORITY DATE	WATER RIGHT NUMBER
March 1, 1912	CG2-GWC17

MAILING ADDRESS	SITE ADDRESS (IF DIFFERENT)
City of Elma PO Box E Elma, WA 98541	

Total Quantity Authorized for Withdrawal or Diversion		
WITHDRAWAL OR DIVERSION RATE	UNITS	ANNUAL QUANTITY (AF/YR)
200	GPM	422

Purpose						
PURPOSE	WITHDRAWAL OR DIVERSION RATE			ANNUAL QUANTITY (AF/YR)		PERIOD OF USE (mm/dd)
	ADDITIVE	NON- ADDITIVE	UNITS	ADDITIVE	NON-ADDITIVE	
Municipal	200	-	GPM	422		Year-round, as needed

Source Location			
COUNTY	WATERBODY	TRIBUTARY TO	WATER RESOURCE INVENTORY AREA
Grays Harbor County	N/A	N/A	22

SOURCE FACILITY/DEVICE	PARCEL	WELL TAG	TWN	RNG	SEC	QQ Q	LATITUDE	LONGITUDE
Well 3	180627340040	AFF017	18 N	6 W	27	SE SE	47.010694	-123.425144
Well 5	180634210060	AKA604	18 N	6 W	34	NE NW	47.009761	-123.424882

Datum: NAD83/WGS84

Place of Use (See Attached Map)

LEGAL DESCRIPTION OF AUTHORIZED PLACE OF USE

Area served by the City of Elma. The place of use of this water right is the service area described in a Water System Plan approved by the Washington State Department of Health. RCW 90.03.386 may have the effect of revising the place of use of this water right if the criteria in section RCW 90.03.386(2) are met.

Proposed Works

Well 3 (McCool Well) 98 feet deep x 20-inches, perforated from 66 to 96 feet.
Well 5 (Logan Well) 182 feet deep x 16-inches

Development Schedule

BEGIN PROJECT	COMPLETE PROJECT	PUT WATER TO FULL USE
Started	September 1, 2020	September 1, 2022

Measurement of Water Use

How often must water use be measured?	Monthly
How often must water use data be reported to Ecology?	Annually
What volume should be reported?	Total Annual Volume
What rate should be reported?	Annual Peak Rate of Withdrawal (gpm)

Provisions

Wells, Well Logs and Well Construction Standards

All wells constructed in the state must meet the construction requirements of WAC 173-160 titled "Minimum Standards for the Construction and Maintenance of Wells" and RCW 18.104 titled "Water Well Construction". Any well which is unusable, abandoned, or whose use has been permanently discontinued, or which is in such disrepair that its continued use is impractical or is an environmental, safety or public health hazard must be decommissioned.

All wells must be tagged with a Department of Ecology unique well identification number. If you have an existing well and it does not have a tag, please contact the well-drilling coordinator at the regional Department of Ecology office issuing this decision. This tag must remain attached to the well. If you are required to submit water measuring reports, reference this tag number.

Installation and maintenance of an access port as described in WAC 173-160- 291(3) is required.

Decommissioning of Wells 1 and 2.

Wells 1 and 2 must be properly decommissioned in accordance with WAC 173-160 titled "Minimum Standards for the Construction and Maintenance of Wells" and RCW 18.104 titled "Water Well Construction".

Measurements, Monitoring, Metering and Reporting

An approved measuring device must be installed and maintained for each of the sources identified by this water right in accordance with the rule "Requirements for Measuring and Reporting Water Use", WAC 173-173, which describes the requirements for data accuracy, device installation and operation, and information reporting. It also allows a water user to petition the Department of Ecology for modifications to some of the requirements.

Recorded water-use data shall be submitted via the Internet. To set up an Internet reporting account, contact the Southwest Regional Office.

Department of Health Requirements

Prior to any new construction or alterations of a public water supply system, the State Board of Health rules require public water supply owners to obtain written approval from the Office of Drinking Water of the Washington State Department of Health. Please contact the Office of Drinking Water at Southwest Drinking Water Operations, 243 Israel Road S.E., PO Box 47823, Tumwater, WA 98504-7823, (360) 236-3030.

Water Use Efficiency

Use of water under this authorization will be contingent upon the water right holder's maintenance of efficient water delivery systems and use of up-to-date water conservation practices consistent with established regulation requirements and facility capabilities.

Proof of Appropriation

The water right holder must file the notice of Proof of Appropriation of water (under which the certificate of water right is issued) when the permanent distribution system has been constructed and the quantity of water required by the project has been put to full beneficial use. The certificate will reflect the extent of the project perfected within the limitations of the superseding permit. Elements of a proof inspection may include, as appropriate, the source(s), system instantaneous capacity, beneficial use(s), annual quantity, place of use, and satisfaction of provisions.

Schedule and Inspections

Department of Ecology personnel, upon presentation of proper credentials, will have access at reasonable times, to the project location, and to inspect at reasonable times, records of water use, wells, diversions, measuring devices and associated distribution systems for compliance with water law.

Findings of Facts

Upon reviewing the investigator's report, I find all facts, relevant and material to the subject application, have been thoroughly investigated. Furthermore, I concur with the investigator that water is available from the source in question; that there will be no impairment of existing rights; that the purpose(s) of use are beneficial; and that there will be no detriment to the public interest.

Therefore, I ORDER approval of Application for Change No. CG2-GWC17 subject to existing rights and the provisions specified above.

You have a right to appeal this Order to the Pollution Control Hearing Board (PCHB) within 30 days of the date of receipt of this Order. The appeal process is governed by Chapter 43.21B RCW and Chapter 371-08 WAC. "Date of receipt" is defined in RCW 43.21B.001(2).

To appeal you must do the following within 30 days of the date of receipt of the Order.

- File your appeal and a copy of this Order with the PCHB (see addresses below). Filing means actual receipt by the PCHB during regular business hours.

- Serve a copy of your appeal and this Order on Ecology in paper form - by mail or in person. (See addresses below.) E-mail is not accepted.
- You must also comply with other applicable requirements in Chapter 43.21B RCW and Chapter 371-08 WAC.

Street Addresses	Mailing Addresses
Department of Ecology Attn: Appeals Processing Desk 300 Desmond Drive SE Lacey, WA 98503 Pollution Control Hearings Board 111 Israel RD SW STE 301 Tumwater, WA 98501	Department of Ecology Attn: Appeals Processing Desk PO Box 47608 Olympia, WA 98504-7608 Pollution Control Hearings Board PO Box 40903 Olympia, WA 98504-0903

Signed at Olympia, Washington, this _____ day of _____ 2015.

Sincerely,

Michael J. Gallagher, Section Manager
 Water Resources Program -- Department of Ecology, Southwest Region Office

BACKGROUND

On March 26, 2015, Jim Stark Public Works Director for the City of Elma, filed an *Application for Change* to change the points of withdrawal to Ground Water Certificate (GWC) 17. The water sources and service area of the City of Elma are situated within Water Resource Inventory Area 22, the Upper Chehalis River Watershed.

The intent of this *Application for Change* is to change the points of withdrawal from originally designated Wells 1 and 2, to Wells 3 and 5. Wells 1 and 2 are being decommissioned and will no longer be used.

Table 1. Attributes of the Ground Water Certificate (GWC) 17 and proposed change.

Attributes	Existing	Proposed
Name	City of Elma	No Change Requested
Instantaneous Quantity	260 gallons per minute (gpm)	No Change Requested
Annual Quantity	422 acre-feet (ac-ft)	No Change Requested
Purpose of Use	Municipal Supply	No Change Requested
Period of Use	Year-Round, as needed	No Change Requested
Place of Use	Area served by the City of Elma as described in a DOH approved Water System Plan	No Change Requested
Point of Diversion	Well 1 and 2	Wells 3 and 5

Legal Requirements for Proposed Change

The following requirements must be met prior to authorizing the proposed *Application for Change*.

Public Notice

A public notice detailing this proposed change was published in the Vidette on May 7th and 14th, 2015, and no protests were received.

State Environmental Policy Act (SEPA)

A groundwater right application is subject to a SEPA threshold determination (i.e., an evaluation whether there are likely to be significant adverse environmental impacts) if one of the following conditions is met.

- It is an application for more than 2,250 gpm;
- It is an application that, in combination with other water right applications for the same project, collectively exceeds the amount above;
- It is a part of a larger proposal that is subject to SEPA for other reasons (e.g., the need to obtain other permits that are not exempt from SEPA);
- It is part of a series of exempt actions that, together, trigger the need to make a threshold determination, as defined under WAC 197-11-305.

None of these situations apply to this application. Accordingly, the subject application is categorically exempt under SEPA (WAC 197-11-305 and WAC 197-11-800(4)).

Water Resources Statutes and Case Law

Under RCW 90.44.100, Ecology is permitted to change an existing groundwater certificate. Ecology may issue such a change only after publication of a notice of the application and investigations, as prescribed in the case of an original application.

In evaluating a request to change a water right under RCW 90.44.100 and RCW 90.03.380, Ecology must find that the proposed change does not alter the original finding, i.e. that: (1) water is available for appropriation; (2) the appropriation/change is for a beneficial use; (3) the change will not impair existing water rights; and (4) the change will not be detrimental to the public interest.

This application was processed under Ecology's Cost Reimbursement Program, based on the provisions of RCW 43.21A.690 and RCW 90.03.265. Pacific Groundwater Group (PGG) prepared this report under contract to Ecology.

INVESTIGATION

Evaluation of this application included, but was not limited to, research and/or review of the following:

- Gibbs & Olson, Inc., 2013. City of Elma Water System Plan Update. February 2013.
- Pacific Groundwater Group, 2015. Hydrogeologic Evaluation and Impairment Considerations – Technical Memorandum in Support of City of Elma. June 12, 2015.
- Robinson Noble, Inc., 2004. Logan Production Well near Elma. Letter report to Mr. Mike Olden of Gibbs and Olsen. October 2004.
- Robinson Noble, Inc., 2013a. City of Elma Shallow Groundwater Investigations Report of Findings. February 2013.

- Robinson Noble, Inc., 2013b. City of Elma Application for New Water Right G2-29303 Phase 1 Water Right Assessment. September 2013.
- Robinson Noble, Inc., 2014. Surface Water Impact Assessment in Support of the City of Elma Mitigation Offer. April 2014.
- Washington State Conservation Commission, 2001. Salmon and Steelhead Habitat Limiting Factors, Chehalis Basin and nearby Drainages, Water Resource Inventory Areas 22 and 23. May 2001.
- Washington State Department of Ecology records of surface and groundwater rights and claims in the vicinity of the subject production wells.
<https://fortress.wa.gov/ecy/waterresources/map/WaterResourcesExplorer.aspx>
- Washington State Department of Ecology water well logs in the vicinity of the subject production well. <https://fortress.wa.gov/ecy/waterresources/map/WCLWebMap/default.aspx>

A field visit was conducted by Jill Van Hulle, PGG, with Jim Stark, City of Elma Public Works Director, on February 19, 2015. Ms. Van Hulle visited the City's wells, wastewater treatment plant, and the surrounding area.

Project Description

Ground Water Certificate (GWC) 17 authorizes the withdrawal of 260 gpm, and 422 acre-feet per year (ac-ft/yr) from the City of Elma's original two production wells, the Bayview Wells (Wells 1 and 2). These wells were constructed in 1912 and served as the City's primary supply source until 1960 when Well 3 was constructed. Wells 1 and 2 are currently maintained for use during emergency situations but are in very poor condition due to age and vandalism.

The intent of this *Application for Change* is to change the points of withdrawal to Wells 3 and 5.

The City's rights are configured such that when GWC 5867 was issued, the City was able to exercise the full annual quantity (Qa) of 422 ac-ft/yr from Well 3. The permit, originally issued for 1,000 gpm, was reduced at certificate issuance to 750 gpm to reflect the installed capacity of Well 3. Well 5 was added as a point of withdrawal to GWC 5867 through a Change Authorization providing system redundancy¹. This same configuration of allowing system redundancy was carried on with the issuance of GWC G2-24632 to Well 4.

Although the City can operate their full Qa without using Wells 1 and 2, they are unable to access the full instantaneous rate. Once the City decommissions Wells 1 and 2, their instantaneous pumping capacity (Qi) will no longer be factored into the Department of Health's (DOH) adequacy calculations. In order to satisfy DOH's requirement, the instantaneous amount of 260 gpm authorized by GWC 17 also needs to be transferred to Wells 3 and 5.

¹ When Well 5 was added as a POW, it required the City to decommission Wells 1 and 2. However this was not done because the City needed the instantaneous rate the wells were authorized to produce to fulfill DOH's water system requirements.

Site Description

The City of Elma lies within the lower Chehalis River Valley and Water Resource Inventory Area (WRIA) 22 in Grays Harbor County, approximately 20 miles east of Aberdeen and 30 miles west of Olympia.

In the vicinity of the City, the river valley has been partially filled with terrace and floodplain deposits. The elevation of the valley near the City is approximately 20 to 65 feet above sea level. It is bordered by bedrock uplands to the north and south, which rise to over 400 feet above sea level.

The Chehalis River basin is within Water Resource Inventory Areas (WRIAs) 22 and 23, and includes parts of Lewis, Thurston, Cowlitz, Pacific, Grays Harbor, and Mason Counties. The total drainage area of the basin is 2,680 square miles, of which approximately 84% is forest lands and approximately 7% (187 square miles) is in agriculture.

Tributaries to the Chehalis River drain from the Olympic Mountains that lie to the north and the Black Hills that lie to the southeast. The Satsop River is the largest of these tributaries and enters the Chehalis River at River Mile (RM) 20.9. It is a shorter, higher energy river, than the Chehalis, and drains the southern portion of the Olympic Mountains. The City is approximately four miles northeast of the Satsop River's confluence with the Chehalis River. Vance Creek is also tributary to the Chehalis River and enters at RM 21.7. City Wells 3, 4 and 5 are located within the Vance Creek basin, approximately 5.5 and 6.5 miles upstream of the Chehalis River confluence.

The City owns and operates a municipal water system that serves the City and surrounding areas. The water system (Washington State Department of Health System ID 23100C) currently serves about 3,600 full-time residents and as many as 15,000 transient users. Based on the 2013 Comprehensive Water System Plan, the City projects a high end population of about 4,400 residents by 2032.

The City also provides wastewater collection and treatment. The collection system is predominantly gravity pipe. The treatment plant removes solids and grit removal and treatment through aeration basins and secondary clarifiers. The treatment plant discharges to the Chehalis River at river mile 24.3.

Other Water Rights Appurtenant to the Proposed Place of Use

The City of Elma currently holds three water rights allocating a total Qi of 2,010 gpm and a Qa of 933 ac-ft/yr. The additive/non-additive allocations authorize the annual quantity to be produced from various combinations of the City wells.

The water rights are summarized below.

Table 2. Summary of City of Elma water rights.

Water Right Certificate/Permit	Source	Qi (gpm)	Qa (ac-ft/yr)	
			Primary	Non-Additive
17	Well 1 and 2	260	422	
5867	Well 3 and 5	750	138	422
G2-24632	Well 4	1,000	112	560
G2-29303*	Well 4	Non-Add.	321	
Totals:		2,010	993	

* G2-29303 was approved October 2015.

If approved, as requested the 260 gpm authorized by 17 will be transferred to Wells 3 and 5, and Wells 1 and 2 can be properly decommissioned without impacting the City's total capacity.

Future Water Supply and Projected Demand

As part of their water system planning process, the City of Elma reviewed Washington State Office of Financial Management data, previous planning documents and other water use trend. The growth rate and need for new water to supply new development has historically been low (over the past 50 years about 1%). Additionally the City has undertaken major conservation efforts which have further reduced the long-term demand projections.

The City projects needing to meet an Average Daily Demand (ADD) of approximately 886,690 gallons per day within a 40 year planning horizon. This equates to a total of 993 ac-ft/yr, or 615 gpm, or a maximum daily demand of 1,245 gpm.

Extent and Validity of GWC 17

GWC 17 is associated with the City's original groundwater sources and supplied the entire population of the City until 1960 when Well 3 was constructed. While the City does not retain water use records before 1980, based on population and water use patterns, the 422 ac-ft allocated to the City was probably in full beneficial use by the early 1960's.

Because the City's rights are municipal in nature, they are exempt from relinquishment as set out in RCW 90.14. As such, this water right is in good standing and eligible for the requested change. Today the Wells 1 and 2 are not being used, but are retained for emergency purposes.

Hydrogeological Considerations

The following discussion of regional stratigraphy has been excerpted from a Technical Memo prepared by licensed hydrogeologist Dan Matlock, of Pacific Groundwater Group (PGG) (2015).

The geology of the lower Chehalis River valley is best described as a large, partially-sediment filled channel cut into the Tertiary sedimentary rocks (marine shale and sandstone). The unconsolidated materials partially filling the channel are a complex mixture of fluvial sediments, deposited in both high- and low-energy regimes associated with historic periods of glaciation and interglaciation, (Robinson Noble (RN) 2013b, PGG 2015).

The sediments deposited during high energy periods are composed of significant gravel deposits that form highly productive aquifers where saturated. These gravel deposits vary in thickness and often are sandwiched between finer-grained floodplain alluvial deposits. Some sediments were also contributed by the tributaries to the Chehalis. The result is that sediment permeability varies both vertically and laterally throughout the entire valley regime.

Although the aquifer may be confined where layers of silt and clay are present, there are many other areas where coarser deposits extend to land surface and are hydraulically connected to surface water.

Wells 3 and 5 are located approximately 1.7 miles northeast of Wells 1 and 2 and approximately 5.5 river miles further upstream on Vance Creek. Once this water right transfer is complete, the City will decommission Wells 1 and 2.

Existing POW

Wells 1 and 2 are about 1.0 river miles upstream of the Chehalis River on a 5.7 acre parcel near wetlands on a tributary to Wenzel Slough and Lower Vance Creek. The wells are completed in a coarse sand and gravel unit and less than 40 feet deep. The aquifer in this area is unconfined with a water table within 15 feet of ground surface. The well logs do not show any confining layer at the site, so the aquifer is highly coupled with nearby surface water which increases the potential for surface water capture and *Groundwater under the Influence of Surface Water (GWI)* concerns.

Because Wells 1 and 2 are very shallow, if operated they have a fairly immediate effect on nearby surface water bodies.

Proposed POW

Both Well 3 and Well 5 are authorized by GWC 5867. Currently Well 3 produces about 700 gpm. Well 5 is equipped to pump from 920 to 950 gpm, depending upon tank levels and groundwater levels at the time of pumping. There are no plans to make any changes to how Well 3 is operated, however with the transfer of permitted capacity from Wells 1 and 2, Well 5 can operate at its full installed capacity. We note that while GWC 17 allowed for a withdrawal rate of 260 gpm, Well 5 is equipped to produce up to 950 gpm or 200 gpm more than currently authorized. We suggest that the change be approved in the amount of 200 gpm so the full pumping capacity of Well 5 can be utilized.

Well 3 (McCool Well) was constructed in the early 1960's is reported to have a 20-inch casing to 98 feet with perforations from 66 to 96 feet.

Well 5 (Logan Well) is a 16-inch diameter production well that was drilled to a total depth of 182 feet by Arcadia Well Drilling in August of 2013. The well is completed in the lower portions of the alluvial aquifer that underlies the valley at depths of about 135 to 165 feet. Although some silts and clay were encountered between 0 and 22 feet, all soils between 22 and 173 feet are fairly coarse grained without any significant confining zones. The well had a static water level of 39 feet bgs at the time of drilling.

Wells 3 and 5 are deeper than Well 1 and 2, but all of the City's wells are completed in the same aquifer, which consists of productive alluvial material.

Evaluation of Transfer

Water Right Change Application CG2-GWC17 requests to transfer the Qi authorized from Wells 1 and 2 to Wells 3 and 5. Although the City can access the annual quantities (Qa) associated with GWC 17, they are unable to utilize the instantaneous rate, since it is restricted to Wells 1 and 2.

Well 5 is equipped to produce up to 950 gpm or an additional 200 gpm beyond what is currently authorized, therefore, we recommend the change be approved in the amount of 200 gpm.

The additional 200 gpm to be transferred to Well 5 will factor into the DOH's adequacy calculations for the water system and reduce future distribution storage capacity requirements. It will also allow the City to meet their future MDD of 1,245 gpm in 15.3 hours of pumping versus 17 hours.

The remaining 60 gpm of the current allowed instantaneous withdrawal will no longer be exercised.

While this change will allow the City to operate Wells 3 and 5 at a higher rate, because this is a very productive aquifer, there should be no diminishment to surface water or other water right holders. Hydraulic impacts from short-term pumping increases in deeper wells are attenuated by aquifer storage so additional surface water capture is not expected as a result of this proposed change.

Impairment of Groundwater Rights and Other Water Users

Well 5 was tested at pumping rates of between 550 and 882 gpm with total drawdown ranging from 16.1 to 25 feet and specific capacity ranging from 34 to 35 gpm/ft. Drawdown stabilized within 20 minutes at all pumping rates, (RN 2004).

As noted by RN (2015), testing of Well 5 did not stress the aquifer enough to properly evaluate aquifer characteristics. However, RN reports that Well 5 can easily be operated as high as 1,000 gpm. RN also noted that even when the City tested Well 5 at 882 gpm, with Well 3 operating at 625, and Well 4 (located about 4,000 feet away at the Cemetery) operating at 1,000 gpm that the combined pumping effects on the other wells were small.

Impairment of Surface Water Rights

There are two surface water bodies of interest in the vicinity of Wells 3 and 5 – the Chehalis River and its tributary Vance Creek.

Under the provisions of WAC 173-522/23, an Instream Resource Protection Plan has been adopted for the Chehalis River and its tributaries. The rule established instream flows for the Chehalis River and closed certain tributaries to any additional consumptive withdrawals. While Vance Creek is not specifically included as a regulated stream in the WAC, it is a fish bearing creek and important tributary. The restrictions on the issuance of additional water rights also apply to groundwater withdrawals in addition to surface water.

Under the rule, Ecology's decisions on future permitting actions related to groundwater withdrawals must consider the natural inter-relationship of surface and groundwater.

In the case of both the Chehalis River and Vance Creek, there are no anticipated effects resulting from the proposed change. The Qa being pumped from Wells 3 and 5 will not change. The overall Qi that can be withdrawn from City wells will be reduced by 60 gpm.

Elma's seasonal water use patterns is typical for a water system with a large percentage of residential customers. In general, the demands begin to increase in May and June with peak use in July and August, with 40% of the total water production occurring between July 15th and October 15th, (RN, 2013b). There are no operational changes proposed under this requests and the City intends to operate these wells as they always have following an annual demand curve.

As noted above, if the City were limited to pumping a Qi of 750 gpm from Wells 3 and 5 then it would take approximately 17 hours of pumping to meet their projected 40 year MDD of 1,245 gpm. On the other hand, the additional 200 gpm of Qi would allow the City to meet this demand in less time. Since the total volume withdrawn is the same and storage characteristics of the aquifer will act to attenuate any impacts associated with short-term increases in the withdrawal rate, then there should be impacts to as the Chehalis River or Vance Creek.

Additionally, the City is proposing to return 60 gpm to the aquifer system and both the Chehalis River in the vicinity of Elma and the lower reaches of Vance Creek are heavily tidally influenced, making it further unlikely that any change would be detected.

Public Interest

The use of water as a community supply for a municipal entity is considered to be in the public interest. The requested change will increase the reliability and flexibility of the public water supply for the City of Elma, and will provide a tool for better overall management of the water resources of the area.

No substantial impacts of the change were identified and the overall effect of using the new point of withdrawal was estimated to be equivalent to the effect of the current withdrawal from the original points of withdrawal.

Consideration of Protests and Comments

No protests have been received as a result of the public notice.

CONCLUSIONS

The proposed change does not affect the original findings of the water right certificate GWC 17. This conclusion is based on the above investigation and is summarized as follows:

1. This water right is for municipal supply, which is a beneficial use of water;
2. The requested change will not affect the availability of water for appropriation, because there will be no increase in water use and Well 3 and 5 withdraw from the same body of public groundwater as did Well 1 and 2. Based on test data for the subject wells and historic information, water is available for the requested changes.
3. All of the City's wells draw from the same hydrologic system and tap the same body of public groundwater.
4. The request will not impair senior water rights or instream flows; and
5. The request is not detrimental to the public interest.

RECOMMENDATIONS

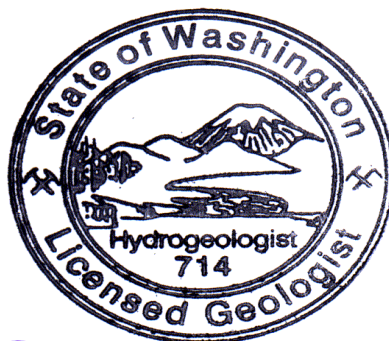
Based on the information presented above, the author recommends that this *Application for Change* be approved and that the POW of this right be changed to reflect the use of Wells 3 and 5, subject to the provisions described in the Order for Report of Examination CGWC17D, pages 1-2.

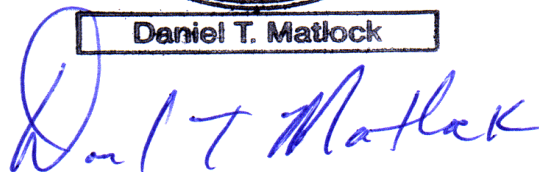
Reported by:



Jill Van Hulle, Pacific Groundwater Group

Date





Reported by:

Dan Matlock, Pacific Groundwater Group

Date

Reviewed by:

Tammy Hall, Water Resources Program

Date

If you need this publication in an alternate format, please call Water Resources Program at 360 407-6600. Persons with hearing loss can call 711 for Washington Relay Service. Persons with a speech disability can call 877-833-6341.

ATTACHMENT 1 – Place of Use Map

